

Claims

- [c1] A storage cassette for accommodating substrates, comprising:
a box-shaped case with a space for retaining substrates and defining an entrance for inserting the substrates into the space; and
a stopping mechanism comprising a first locating mechanism, a second locating mechanism, and a stopper engaged therebetween, wherein the first and second locating mechanisms are located at opposite sides the entrance, and each locating mechanism defines a first locating means, a second locating means closer to a corresponding side of the case than the first locating means, and a connecting means interconnecting the first locating means and the second locating means;
wherein in a first position, the stoppers are engaged in the first locating means whereby substrates accommodated in the cassette cannot be displaced; and in a second position, the stoppers are engaged in the second locating means whereby the substrates can be freely removed from the space.
- [c2] The storage cassette as described in claim 1, wherein

each locating mechanism defines a first locating hole, a second locating hole closer to the corresponding side of the case than the first locating hole, and a connecting slot interconnecting the first and second locating holes.

- [c3] The storage cassette as described in claim 2, wherein a diameter of the first locating hole is the same as that of the second locating hole, and greater than a width of the connecting slot.
- [c4] The storage cassette as described in claim 2, wherein each locating mechanism further defines a guiding slot, at least a part of the guiding slot being parallel to the connecting slot.
- [c5] The storage cassette as described in claim 4, wherein the first locating mechanism further comprises a sliding ring, a spring and a clip, and the second locating mechanism further comprises a sliding ring.
- [c6] The storage cassette as described in claim 5, wherein the stopper comprises an upper end, a lower end and an intermediate main body, and diameters of the upper and lower ends are identical and less than a diameter of the main body.
- [c7] The storage cassette as described in claim 6, wherein the stopper defines a first coupling ring between the upper

end and the main body, and a second coupling ring a predetermined distance below the main body.

- [c8] The storage cassette as described in claim 7, wherein a common diameter of the first and second coupling rings is less than that of the main body and greater than that of the upper end.
- [c9] The storage cassette as described in claim 8, wherein the diameter of the first and second coupling rings is slightly less than that of the first and second locating holes.
- [c10] The storage cassette as described in claim 9, wherein the upper end defines an annular groove near a top thereof, and a diameter of the upper end at the annular groove is substantially the same as an inner diameter of the clip.
- [c11] The storage cassette as described in claim 10, wherein the sliding ring defines a central through hole and an outer annular groove, and a diameter of the sliding ring at the annular groove is slightly less than a width of the guiding slot.
- [c12] The storage cassette as described in claim 11, wherein the sliding rings are received in the guiding slots at the annular grooves thereof.
- [c13] The storage cassette as described in claim 12, wherein

the upper and lower ends are received through the through holes of the sliding rings respectively.

- [c14] The storage cassette as described in claim 13, wherein the upper and lower ends are received in the sliding rings so that the upper and lower ends can slide along the guiding slots.
- [c15] The storage cassette as described in claim 14, wherein the first and second coupling rings are engaged in the first locating holes.
- [c16] The storage cassette as described in claim 15, wherein the spring is located around the upper end on the sliding ring thereof, and the clip is engaged in the annular groove of the upper end thereby compressing the spring.
- [c17] A method for operating a storage cassette with a positionable stopper, comprising the steps of:
providing the storage cassette comprising first and second locating holes, connecting slots interconnecting the first and second locating holes, guiding slots, a stopper having a first coupling ring and a second coupling ring engaged in the first locating holes, and a compressed spring;
pulling the stopper down so that the spring is further compressed, and the first and second coupling rings are

disengaged from the first locating holes respectively; moving the stopper to the second locating holes along the connecting slots and the guiding slots until the first and second coupling rings are received in the second locating holes; and releasing pressure on the stopper.

- [c18] The method for operating a storage cassette with a positionable stopper as described in claim 17, wherein a common diameter of the first and second coupling rings is slightly less than a common diameter of the first and second locating holes.
- [c19] The method for operating a storage cassette with a positionable stopper as described in claim 17, wherein the common diameter of the first and second locating holes is greater than a common width of the connecting slots.
- [c20] The method for operating a storage cassette with a positionable stopper as described in claim 17, wherein the cassette further comprises a clip received in an annular groove defined near a top of the stopper, and the spring is placed around an upper end of the stopper and compressed below the clip.
- [c21] A storage cassette assembly comprising:
a box-shaped case defining a pair of opposite support-

ing plates with on a front portion thereof an entrance defining a width along a first direction; a stopping mechanism located around said entrance, said stopping mechanism extending in a second direction perpendicular to said first direction while being moveable in said first direction between outer and inner positions; and

a plurality of substrates located in the case in a parallel relation, each of said substrates defining two opposite side edges respectively supported by said pair of supporting plates; wherein

a front edge of each of said substrates, which is smaller than the width in said first direction, is obstructed by the stopping mechanism in a third direction perpendicular to both said first and second direction when said stopping mechanism is in the inner position, while is unobstructed by the stopping mechanism in said third direction when said stopping mechanism is in the outer position.